

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
ASSISTANT SECRETARY FOR HOUSING-FEDERAL HOUSING COMMISSIONER

Series and Series Number: (Supersedes issue
dated June 16, 1993)

MATERIALS RELEASE NO. 1037d

ISSUE DATE: July 10, 1996

REVIEW DATE: July 10, 1999

TO: DIRECTORS, HOUSING DIVISION
DIRECTORS, MULTIFAMILY DIVISION
DIRECTORS, SINGLE FAMILY DIVISION

SUBJECT: 1. Product FLEX Single-Ply Membrane Roofing Systems
2. Name and Address of Manufacturer FLEX Membrane International
Bethlehem Drive
Morgantown, PA 19543
1-800-969-0108

Data on the nonstandard product described herein have been reviewed by the Department of Housing and Urban Development and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement, approval or acceptance by HUD of the described product, and any statement or representation, however made, indicating such approval, endorsement or acceptance by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE: Single-ply roofing membrane for nominally flat to 6 in 12 roof slopes.

DESCRIPTION:

"FLEX MF, Tri-polymer FB and MF/R" Roofing Systems are single-ply, polyvinyl chloride (PVC) membrane systems laid over any type deck or insulation which is in compliance with the HUD Minimum Property Standards (MPS), and which is acceptable to Flex Membrane International (FMI). These roof membrane systems are attached by the following methods which are in accordance with FMI specifications and architectural details: FMI MF (mechanically fastened), Tri-Polymer FB (fully adhered) and FLEX MF/R (mechanically fastened reinforced).

MATERIALS:

All materials for these roofing systems are supplied by FLEX or its licensed roofing contractor. Contractor supplied materials (e.g., roofing screws and nailers) must be approved in writing by FMI. Physical properties of the membranes and flashing (tensile strength, elongation, tear resistance, brittleness, etc.) are on file at HUD Headquarters and at FMI Headquarters.

Membranes:

- FMI MF - PVC sheet (60, 70, 80 mil)
- Tri-Polymer FB - PVC/EIP sheet (40, 45 mil) with a 4.5 mil backing
- FMI MF/R - PVC/EIP sheet (40, 50 mil) reinforced with synthetic fibers

Flashing:

FMI Coated Metal - 26 gauge galvanized steel with 30 mil PVC coating on one side and primer on other side.

FMI MP - PVC sheet (60 mil).

Adhesives:

FMI 00-32 Adhesive shall be used for slopes up to 6 in 12.
ASTM D 312, Type 3 Asphalt shall be used for slopes up to 3 in 12.

SUBSTRATE PREPARATION:

1. FMI licensed roofing contractors shall examine the substrate surface for excessive surface roughness, contaminated surfaces, structurally unsound substrates and other defects that may adversely affect the execution and quality of the work.
2. Work shall not commence until all defects are remedied and/or separation sheets are installed.
3. Install the vapor barrier or insulation on the prepared deck in accordance with FMI and insulation manufacturer's specifications.

MEMBRANE INSTALLATION:

The FMI Roofing System shall be installed by FMI licensed roofing contractors.

Membrane installation and field quality control shall be in accordance with the FMI Roofing System Specifications. Installation shall include surface preparation, placement of vapor barrier (if required), thermal insulation and membrane, joint welding, bonding, lap splicing, membrane attachment, flashing, construction closure, walkways, and all other work required to make a complete watertight roofing system. A general description of welding joints and flashing follows:

1. Joints in FMI roof systems shall be made with FMI approved electric hot air welding equipment or tetrahydrofuran (THF) solvent.
2. Automatic machine welding requires a minimum 2" sheet overlap. Hand welding requires a minimum of 2" sheet overlap. Width of all membrane welds is minimum 1 1/2".
3. Primer shall be used for cementitious decking.
4. All flashing is hot air welded at roof membrane joints. Minimum width of weld shall be 1 1/2". Do not use FMI contact adhesive in lap areas. See FMI architectural details.
5. FMI metal fasciae may be exposed to direct sunlight, but fasteners penetrating horizontal surfaces must be covered with FMI PVC strips.

SINGLE PLY ROOFING INSTITUTE WIND DESIGN GUIDE

WIND AND FIRE CLASSIFICATION:

Mechanically fastened roofing systems shall be designed to resist wind uplift forces as determined in the Wind Design Guide for Mechanically Fastened Single-Ply Roofing Systems published by the Single Ply Roofing Institute (SPRI).

Ballasted roofing shall be in accordance with Underwriters Laboratories, Inc. (UL) or Factory Mutual Engineering Corporation (FM) construction details. To qualify for fire rating and uplift resistance, the system shall be in the current UL or FM Listings.

The roofing system shall resist design wind forces specified by ASCE 7-88. Fire classification shall meet the HUD Minimum Property Standards (MPS). The roof construction shall be in accordance with Underwriters' Laboratories, Inc. (UL) or Factory Mutual Engineering Corporation (FM) classification. To qualify for fire rating and wind uplift, the system shall be in the current UL or FM listing.

INSPECTION AND WARRANTY:

A designated representative of FMI shall make an inspection prior to the installation to obtain the following: (1) the roof outline, measurements and total square footage; (2) location, type and details of penetrations; and (3) perimeter and other special details, as well as all field splice locations.

Roof drawings shall be submitted to an authorized FMI representative by the licensed contractor prior to the initial installation inspection. Roof drawings must include: (1) the roof outline, measurement and total square footage; (2) location, type and details of penetrations; and (3) perimeter and other special details, as well as all field splice locations.

A designated representative of FMI, shall make inspections of the installation at the following intervals: (1) prior to delivery of FMI materials, to accept or reject the roof deck to which the FMI membrane is to be applied, (2) during the installation, to inspect and approve the installation techniques and methods, and (3) upon completion, to give final approval to the installation.

A ten year warranty shall be given by FMI and read as follows:

FMI hereby warrants to the purchaser of its PVC roofing system as described herein (system), which system has been installed by a contractor licensed by FMI that the system will remain in a watertight condition for a period of ten years from the date of installation, and in the event of failure of the aforesaid system to function as warranted above, whether on account of defective materials, faulty installation, or on account of normal processes of wear and aging, FMI will make or cause to be made such repairs and maintenance necessary to enable the roofing system to perform as warranted above.

Conditions of the Warranty

FMI's obligations to repair or maintain the FMI roofing system under this warranty shall not be in force or effect unless: (a) FMI is notified of any failure of the system covered by the warranty within 30 days of the failure determinations; (b) the product is installed by an applicator licensed by FMI, and (c) no alterations or repairs to the system are made without the prior written consent of FMI as to extent, methods and materials used.

Liabilities Excluded From Coverage of This Warranty

FMI assumes no liability for damage to the building on which the system is situated, nor for damage to the contents thereof, nor any other property or persons, nor for any incidental or consequential damages.

FMI assumes no liability for any failure of the system resulting from winds which exceed the HUD design wind loads, or from failures due to lightning, earthquake, Acts of God; nor for any failure of the system resulting from fire of any origin or cause; nor for any failure of the system caused by structural defects of the building on which the system is installed, nor for any failure of the system caused by any other cause or from any adjacent structure.

No Other Expressed Warranty

No other warranty, expressed or implied is hereby given, and no affirmation by the seller, by words or otherwise shall constitute any such warranty. The terms and conditions hereof contain the entire agreement between the parties hereto, and may not be altered in any manner whatever, unless in writing.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this Materials Release (MR) commits the manufacturer to fulfill, as a minimum, the following:

1. Produce, label and certify the material, product or system in strict accordance with the terms of this MR.
2. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.
3. When requested, provide the Office of Consumer and Regulatory Affairs, Manufactured Housing and Standards Division HUD Headquarters, with a representative list of properties, in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.
4. Inform HUD in advance of changes in production facilities, methods, design of the product, company name, ownership or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for a renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to HUD Headquarters. Appropriate user fees shall be sent to:

U. S. Department of Housing and Urban Development
Technical Suitability of Products Fees
P. O. Box 954199
St. Louis, MO 63195-4199

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to the MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of the MR. HUD will notify the manufacturer that the MR may be canceled when:

1. conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system,
2. the manufacturer has changed its organizational form without notifying HUD, or
3. the manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation, and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

This Materials Release is issued solely for the captioned firm,
and is not transferable to any person or successor entity.
